

“Considering the Ecology of the Estuarine System in Our Rules.”

Any ideas on this best way to do that ???



Division of
Coastal Management



A Bit of the Past.....

Update on Estuarine Bulkheading Issues – September 1987

Implementation and Standards Memo – Preston Pate Jr.

(See I&S Document)

(Getting started)

Conference Overview of Sea Level Rising on North Carolina's Coast NEWS Release – May 1998

- ✓ Sea Level Rise Awareness and increased development
- ✓ Statement of Increased Sea Level Rise
- ✓ Shoreline Protection Issues
- ✓ Need for Policy to include Estuarine Habitat and Fishery Resources (Ecology)

(See Document)

Coastal Habitat Protection Plan

By

Michael W. Street, Anne S. Deaton,

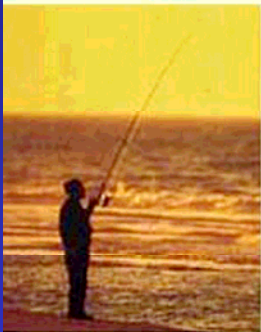
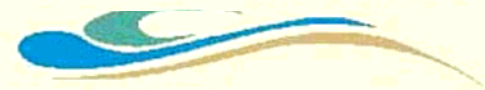
William S. Chappell, and Peter D. Mooreside

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Division of Marine Fisheries

Morehead City, NC 28557

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History

Numerous problems in North Carolina coastal fisheries during late 1980s - early 1990s

- Major fish kills
- Oyster diseases
- Red tide
- Sea turtle and marine mammal mortalities
- Commercial & sport fishing competition and conflicts
- Interagency conflicts
- Political issues

History

- Fisheries Moratorium Act (1994)
 - Proposed by DMF Director, MFC Chair
 - Moratorium on new fishing licenses
 - Steering Committee to “oversee study of the fishery resource”
 - Effective July 1994 – June 1998
- Study report (1996) addressed five areas
 - Licenses, fishing gear, enforcement, organization, and habitat -(prepare Coastal Habitat Protection Plans)
- Fisheries Reform Act passed August 1997

Coastal Habitat Protection Plan Goal

“...long-term enhancement of coastal fisheries associated with each habitat.”

Organization of CHPP Based on Six Fish Habitats

Water Column



Shell Bottom



Hard Bottom



Wetlands



Soft Bottom



**Submerged
Aquatic Vegetation**



CHPP Requirements

[G.S. 143B-279.8.]

- Describe and classify biological systems in the habitat
- Evaluate the function, value to coastal fisheries, and trends in habitat
- Identify existing and potential threats to the habitat and impact on coastal fishing
- Recommend actions to protect and restore the habitats

Coastal Habitat Protection Plan (CHPP) Features

- Plans prepared by DENR
 - Multi-Agency Effort
 - Divisions of Marine Fisheries, Water Quality, Coastal Mgt., Env. Health
 - Wildlife Resources Commission
 - Coordination with
 - DWQ Basinwide Water Quality Plans
 - APNEP Comprehensive Conservation and Management Plan
 - Wetlands Restoration Program Local Watershed Plans
 - CAMA Land Use Plans
- Plan adopted by three regulatory Commissions responsible for coastal habitats
 - Marine Fisheries, Coastal Resources, Environmental Management
- Commissions' actions must be consistent with adopted Plans

CHPP Recommendations

Goal 1

IMPROVE EFFECTIVENESS OF EXISTING RULES AND PROGRAMS PROTECTING COASTAL FISH HABITATS

Goal 2

IDENTIFY, DESIGNATE, AND PROTECT STRATEGIC HABITAT AREAS

Goal 3

ENHANCE HABITAT AND PROTECT IT FROM PHYSICAL IMPACTS

Goal 4

ENHANCE AND PROTECT WATER QUALITY

GOAL 3: ENHANCE HABITAT AND PROTECT IT FROM PHYSICAL IMPACTS

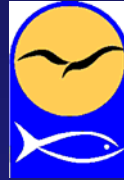
- **Prepare & implement a coastwide Beach and Inlet Management Plan (BIMP) that minimizes the effects on fish habitat, while addressing socio-economic concerns**
- **Protect fish habitat by revising estuarine and public trust shoreline stabilization rules, including erosion rates, and encourage use of alternative shoreline stabilization methods**

"There are limits to what can be accomplished
through a regulatory program."
(3 steps towards a solution??)

1. Promote Living Shoreline Concept

Project Design characteristic(s) that allow for
shoreline protection but considers shoreline type
and maintaining the Ecological Function of that Shoreline
and allows for migration and Sea Level Rise

**The North Carolina Estuarine Biological and
Physical Processes Work Group**



**Recommendations for Appropriate Shoreline
Stabilization Methods for the Different
North Carolina Estuarine Shoreline Types**



**North Carolina Division of Coastal Management
August 2006**



Marsh Sills (Rip Rap)



2. Regulatory changes and other..Using CHPP Implementation Plans-every 2 Yrs

- ✓ DMF to act in a supportive role to DCM
- ✓ Establish a CRC/CRAC Estuarine Shoreline Stabilization Subcommittee.
Time frame: Complete January 2006
- ✓ Support/promote efforts to develop shoreline stabilization demonstration projects along non-ocean shorelines. Time frame: Complete July 2006
- ✓ Pursue and provide financial support for shoreline stabilization demonstration projects and studies. Time frame: Complete June 2007
- ✓ Refine rule 15A NCAC 07H.2700GP for Marsh Sills.
Time frame: Complete July 2007
- ✓ Encourage alternatives to vertical shoreline stabilization methods through permit requirements and fees. Time frame: Complete July 2007
- ✓ Continue participation as a Technical Advisory Committee member in NOAA's new research-sponsored program "Ecological Effects of Sea Level Rise" to develop information/tools to better forecast and manage landscape responses of critical natural resources relative to sea level rise. Time frame: Ongoing

"There are limits to what can be accomplished through a regulatory program."-Cont'd

3. Interaction with Landowner –"Decision Tree" Concept

Pamphlet – Stabilizing the Estuarine Shoreline

(See example .pdf)

And.....Quantifying what we have permitted since 1978...
Mapping the Estuarine Shoreline....Guy's talk

Cumulative Impact of our Rules on Estuarine Ecosystem Services.....

Is there a ??? % of Hardening the Estuarine Shoreline, that can be determined to be detrimental to that system-and therefore be a mechanism to deny certain types of construction??

Similar to excepted correlation of % of impervious surface coverage and water quality degradation...

Trying to be Proactive in establishing bulkhead threshold and other needs such as shoreline change rates...